

Brief Clinical Reports

MIRROR COGNITIONS AND BEHAVIOURS IN PEOPLE CONCERNED ABOUT THEIR BODY SHAPE

Clare Farrell, Roz Shafran and Christopher G. Fairburn

Oxford University, UK

Abstract. The present study aimed to test the hypothesis that women with high shape concern would differ in their use of mirrors from women with low levels of shape concern. The “Mirror Questionnaire” was completed by 150 women, half of whom had high levels of shape concern. The findings support the notion that women with high shape concern differ from those with low concern in their use of mirrors, and argue for further investigation of the role of mirror cognitions and behaviours in the maintenance of body image disturbance.

Keywords: Shape concern, mirrors, checking, body image.

Introduction

Mirrors are the main source of visual information about one’s body and are of obvious importance when examining one’s body shape. Body checking behaviours, such as pinching and wobbling flesh, using the fit of clothes, or scrutinizing the size of body parts in the mirror, have been hypothesized to maintain body shape concern (Rosen, 1997; Fairburn, Shafran, & Cooper, 1999). In recognition of the anxiety elicited by looking at one’s reflection, mirror exposure has been used in treatments for body shape concern and eating disorders (Key et al., 2002; Rosen, 1997). Patients with eating disorders report frequent and sometimes unusual use of mirrors to check the appearance of their bodies, and they characteristically over-evaluate the importance of what they see (Reas, Whisenhunt, Netemeyer, & Williamson, 2002).

The aim of this study was to test four hypotheses, derived from the existing body image literature and clinical experience, regarding the relationship between mirror behaviours and body shape concern. Specifically, it was predicted that compared to women with low levels of shape concern, those with high levels of shape concern would:

- 1) Pay more attention to disliked body parts.
- 2) Check their appearance in the mirror more often.

Reprint requests to Roz Shafran, Department of Psychiatry, Warneford Hospital, Oxford OX3 7JX, UK. E-mail: roz.shafran@psych.ox.ac.uk

© 2004 British Association for Behavioural and Cognitive Psychotherapies

Table 1. Participant characteristics

	Age	Body Mass Index (BMI)	Shape concern	Eating concern	Restraint	Weight concern
High shape concern group	29.5 (13.9)	24.8 (4.75)	3.98*† (.94)	2.22*† (2.43)	2.94*† (2.35)	3.16*† (1.81)
Low shape concern group	32.0 (13.1)	24.5 (3.42)	1.09 (.64)	.25 (.37)	.89 (1.11)	.72 (.64)
Normative mean**	n/a	n/a	2.54 (1.66)	.91 (1.15)	1.30 (1.46)	1.81 (1.62)

Note: * Scores are significantly higher than low concern group scores ($p < .001$).

† Scores are significantly higher than normative mean ($p < .001$). Standard deviations are in parentheses.

** Normative means currently unpublished.

- 3) Consciously avoid looking in the mirror more often.
- 4) Experience more negative thoughts and emotions when looking in the mirror.

Method

Study design

We devised a questionnaire (the Mirror Questionnaire) based on an existing questionnaire on mirror behaviours for patients with body dysmorphic disorder (Veale & Riley, 2001). The Mirror Questionnaire comprised 26 questions, including items on the frequency and duration of looking, and avoidance of looking, in the mirror, mirror-related checking behaviours, and cognitions and emotions evoked by looking in the mirror.

Participants also completed the Eating Disorder Examination- self-report version (EDE-Q; Fairburn & Beglin, 1994). This self-report questionnaire is based on the Eating Disorder Examination (Fairburn & Cooper, 1993) and has good reliability and validity (Fairburn & Beglin, 1994). It generates scores on four subscales: Restraint, Eating Concern, Weight Concern, and Shape Concern.

Participants

Participants were recruited using advertisements in the local area and press for women who were either happy or dissatisfied with their bodies to take part in research. Students comprised 50% of the sample. Data are presented for 150 women, half of whom reported high levels of body shape concern (defined as a score above the normative mean (2.45) of the shape concern subscale of the EDE-Q). The remaining 75 women reported low body shape concern (defined as the mean and below on the shape concern subscale of the EDE-Q). Participant characteristics are shown in Table 1. The groups did not differ on age or BMI. However, those in the high shape concern group scored higher than those in the low concern group on all of the four subscales of the EDE-Q, and their scores were also significantly higher than the normative means for all four subscales.

Results

Chi-squared analyses were conducted to examine differences between the two groups. The significance level was set at .01 to adjust for multiple comparisons. Relationships between continuous variables were analysed using Spearman's correlations, since the data were found not to have a normal distribution.

Prediction 1

Significantly more of those with high shape concern scores reported paying attention in the mirror to body parts such as stomach and hips (81%), compared to participants with low concern (46%; $\chi^2 = 19.1$; $df = 1$; $p < .001$). When asked to report why they looked at this part, significantly more of those with high shape concern gave shape and weight or unspecified dislike as the reason than those with low concern (72% & 38% respectively; $\chi^2 = 13.5$; $df = 1$; $p < .001$).

Prediction 2

Checking behaviours such as pinching and wobbling body parts in front of the mirror were seen significantly more often in those with high shape concern (67% vs. 47%; $\chi^2 = 6.26$; $df = 1$; $p = .01$). There was a strong trend for participants with high levels of body shape concern to report looking in the mirror for longer than those with lower shape concern, but this did not reach significance with the corrected significance level ($\chi^2 = 8.15$; $df = 2$; $p = .017$). There was no difference in reported frequency of looking in the mirror ($\chi^2 = 3.49$; $df = 3$; $p = .323$).

Prediction 3

Thirty-seven percent of those with high shape concern reported some avoidance of looking in the mirror, compared to only 6% of those in the low concern group. This difference was highly significant ($\chi^2 = 20.4$; $df = 1$; $p < .001$).

Prediction 4

Participants were asked to report the emotions and the cognitions that they experienced when looking in the mirror, which were then rated as either "positive/neutral" or "negative/mixed" (where mixed includes negative). A greater proportion of those with high levels of shape concern than those with low concern were rated as experiencing negative/mixed cognitions (93% vs. 64%) and emotions (91% vs. 45%) when looking in the mirror (cognitions: $\chi^2 = 19.0$; $df = 1$; $p < .001$; emotions: $\chi^2 = 34.2$; $df = 1$; $p < .001$).

Continuous variables

The following variables were entered into a non-parametric, 2-tailed correlation: number of times participant looks in the mirror daily (Times per day), mean time spent looking in the mirror on any occasion (Mean time), longest time spent looking in the mirror in a day (Longest time), number of times avoid looking in mirror daily (Avoid), and score on the shape concern

Table 2. Correlations between continuous variables and shape and weight concern subscale scores

	Mean time	Longest time	Avoid	EDE-Q shape	EDE-Q weight
Times per day	.05	.20*	.08	.10	.10
Mean time		.67**	.00	.23**	.20*
Longest time			-.01	.11	.13
Avoid				.40**	.40**
EDE-Q shape					.90**

Note: * $p < .05$, ** $p < .01$.

(EDE-Q shape) and weight concern (EDE-Q weight) subscales of the EDE-Q. Table 2 shows the correlations between these variables.

Discussion

The findings of the current study show an association between high levels of body shape concern and looking at disliked body parts such as the stomach and hips. High shape concerned participants were more likely than low concerned participants to report distress about the shape or size of that body part as the reason for this selective attention. Those with high shape concern more frequently reported checking behaviours such as pinching and wobbling flesh when looking in the mirror, and these participants also reported spending longer on average looking in the mirror than those with low shape concern, although this difference did not reach significance, and the two groups did not report a difference in the frequency of looking in the mirror. However, average time spent looking in the mirror was significantly correlated with shape concern scores. The prediction that those with high shape concern would avoid looking in the mirror more often than others was also supported, both in the categorical analysis and in the correlation of shape concern with frequency of avoidance. Finally, the findings of the present study showed that more of those with high shape concern report experiencing negative/mixed cognitions and emotions when looking in the mirror than those with low concern.

It is clearly not possible to make any causal inferences about the effect of differences in behaviour reported in this questionnaire study. However, these findings are consistent with the hypothesis that unusual mirror-related behaviours may contribute to the maintenance of body image disturbance. The finding that the time spent looking in the mirror was not significantly different between the two groups, and that there was no difference in frequency of looking in the mirror, is unexpected. These two findings suggest that behaviours and cognitions when looking in the mirror may be the critical factors in influencing shape concern, rather than simply the act of looking in the mirror.

This cross-sectional study tested four predictions about the difference in mirror cognitions and behaviours between those with and without high shape concern. Further work, including experimental manipulations of body checking, are needed to test hypotheses about the maintenance of shape concern and to evaluate whether similar mechanisms operate in patients with eating disorders.

References

- FAIRBURN, C. G., & BEGLIN, S. J. (1994). Assessment of eating disorders: Interview or self-report questionnaire? *International Journal of Eating Disorders*, 6, 363–370.
- FAIRBURN, C. G., & COOPER, Z. (1993). The Eating Disorder Examination (12th ed.). In C. G. Fairburn & G. T. Wilson (Eds.), *Binge eating: Nature, assessment, and treatment*. New York: Guilford Press.
- FAIRBURN, C. G., SHAFRAN, R., & COOPER, Z. (1999). A cognitive behavioural theory of anorexia nervosa. *Behaviour Research and Therapy*, 37, 1–13.
- KEY, A., GEORGE, C. L., BEATTIE, D., STAMMERS, K., LACEY, H., & WALLER, G. (2002). Body image treatment within an inpatient program for anorexia nervosa: The role of mirror exposure in the desensitization process. *International Journal of Eating Disorders*, 31, 185–190.
- REAS, D. L., WHISENHUNT, B. L., NETEMEYER, R., & WILLIAMSON, D. A. (2002). Development of the Body Checking Questionnaire: A self-report measure of body checking behaviors. *International Journal of Eating Disorders*, 31, 324–333.
- ROSEN, J. C. (1997). Cognitive-behavioral body image therapy. In D. M. Garner & P. E. Garfinkel (Eds.), *Handbook of treatment for eating disorders* (2nd ed.). New York: Guilford Press.
- VEALE, D., & RILEY, S. (2001). Mirror, mirror on the wall, who is the ugliest of them all? The psychopathology of mirror gazing in body dysmorphic disorder. *Behaviour Research and Therapy*, 39, 1381–1393.